

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P561815

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561815
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2STD-40-UNV-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

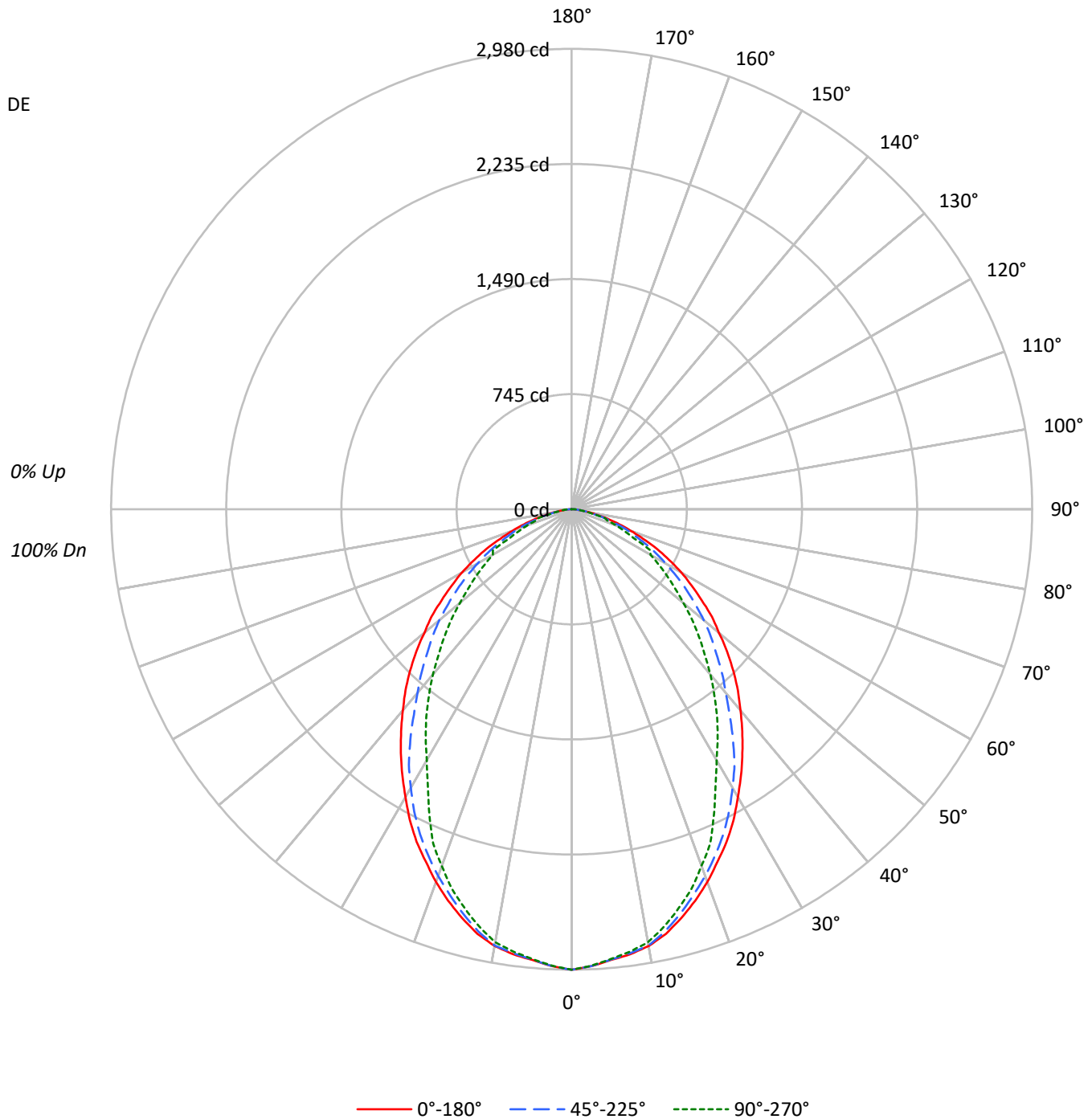
Lumens per Lamp: N/A
Luminaire Lumens: 5851.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89					87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8020	8020	8020
5°	7911	7902	7893
10°	7843	7833	7777
15°	7631	7555	7449
20°	7351	7233	7035
25°	7049	6895	6466
30°	6681	6467	5824
35°	6327	5977	5388
40°	5967	5447	4902
45°	5625	5035	4432
50°	5207	4674	3952
55°	4817	4235	3540
60°	4413	3783	3171
65°	3883	3313	2808
70°	3199	2901	2386
75°	2543	2221	2329
80°	1709	1602	1495
85°	1065	1275	1488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5625 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.4	4.7
10°-20°	761.4	13.0
20°-30°	1054.1	18.0
30°-40°	1124.0	19.2
40°-50°	1025.4	17.5
50°-60°	803.3	13.7
60°-70°	523.6	8.9
70°-80°	232.0	4.0
80°-90°	49.8	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2092.9	35.8
0°-40°	3216.9	55.0
0°-60°	5045.7	86.2
0°-90°	5851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2980	2980	2980	2980	2980	
5°	2929	2925	2925	2922	2922	278
15°	2739	2739	2712	2684	2674	770
25°	2374	2360	2322	2240	2178	1090
35°	1926	1912	1819	1681	1640	1204
45°	1478	1447	1323	1213	1165	1139
55°	1027	996	903	796	755	921
65°	610	575	520	531	441	601
75°	245	227	214	203	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2980.4	2980.4	2980.4	2980.4	2980.4
2.5°	2959.7	2959.7	2959.7	2956.3	2956.3
5°	2928.7	2925.3	2925.3	2921.8	2921.8
7.5°	2904.6	2901.2	2897.7	2894.3	2887.4
10°	2870.2	2870.2	2866.7	2849.5	2846.0
12.5°	2815.0	2811.6	2797.8	2773.7	2766.8
15°	2739.2	2739.2	2711.7	2684.1	2673.8
17.5°	2656.5	2653.1	2618.6	2591.1	2577.3
20°	2567.0	2560.1	2525.6	2480.8	2456.7
22.5°	2467.0	2467.0	2425.7	2367.1	2343.0
25°	2374.0	2360.2	2322.3	2239.6	2177.6
27.5°	2267.2	2246.5	2205.2	2088.0	2015.7
30°	2150.0	2139.7	2081.1	1929.5	1874.4
32.5°	2039.8	2022.6	1960.5	1802.0	1757.2
35°	1926.1	1912.3	1819.3	1681.4	1640.1
37.5°	1812.4	1795.1	1678.0	1567.7	1516.1
40°	1698.7	1678.0	1550.5	1450.6	1395.5
42.5°	1591.9	1564.3	1440.2	1333.4	1271.4
45°	1478.2	1447.1	1323.1	1212.8	1164.6
47.5°	1364.4	1336.9	1223.2	1109.5	1054.3
50°	1243.9	1219.7	1116.4	1002.7	944.1
52.5°	1143.9	1106.0	1006.1	892.4	844.2
55°	1026.8	995.8	902.7	795.9	754.6
57.5°	920.0	889.0	802.8	702.9	668.4
60°	820.0	775.3	702.9	616.8	589.2
62.5°	709.8	675.3	613.3	541.0	575.4
65°	609.9	575.4	520.3	530.6	441.0
67.5°	499.6	482.4	434.1	385.9	372.1
70°	406.6	385.9	368.7	317.0	303.2
72.5°	323.9	303.2	279.1	251.5	241.2
75°	244.6	227.4	213.6	203.3	224.0
77.5°	168.8	161.9	151.6	141.3	137.8
80°	110.3	106.8	103.4	99.9	96.5
82.5°	65.5	65.5	65.5	65.5	65.5
85°	34.5	37.9	41.3	44.8	48.2
87.5°	20.7	20.7	24.1	27.6	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)